

REMARKS

Applicants have read and considered the Office Action dated October 4, 2002, and the references cited therein. Reconsideration of this application and entry of the foregoing amendments are respectfully requested. Applicants initially note and appreciate allowance of claim 34.

Claims 13 and 15 are amended and claims 1-34 remain pending.

A marked up version showing amendments to the specification is provided in the attached "Marked up Version of Amendments" (page i). Changes are shown using underlines and strikeouts.

Specification

The Office Action stated that the title was not descriptive. The title has been replaced and Applicants assert that the new title is sufficiently descriptive.

Claim Objections

Claim 13 was objected to as being of improper dependent form. Claim 13 has been amended and Applicants asserted that the objection is traversed.

Claim Rejections under 35 USC §103

The Examiner has rejected claims 1-13 and 16-33 under 35 USC §103(a) as being unpatentable over Tuompo *et al.* (US Patent 5,910,420).

Tuompo et al.

This reference discloses a method for the removal of biofilms without hindering the growth of microorganisms. Blends are disclosed that are used for the loosening and removal of biofilms without killing the microbes. The blends or compositions comprise one or more chelating agents, a detergent, a reducing substance, an alcohol, as well as an amine. The treatment efficiency of the blends or compositions is described as being improved by the addition of a hydrolytic enzyme or a blend of hydrolytic enzymes. In view of the use of an enzyme or blend of enzymes, the solutions are buffered. There is no suggestion at all of providing blends or

compositions capable of not only dislodging a biofilm but also of destroying the integrity of the biofilm thus exposing the bacteria contained therein. This difference alone is enough, it is respectfully submitted, to demonstrate non-obviousness.

It is further admitted by Tuompo that the addition of detergent did not significantly increase the removal of bacteria from the surfaces (column 13, lines 58-65). The detergents are rather used to "stabilize" the components of the compositions. Therefore, it does not appear that the '420 patent specifically discloses "a detergent and a salt or an acid capable of forming a salt", which combination is capable of dislodging and dismantling the biofilms. The use of buffers may play a role to this effect, hindering the formation of salts. The apparent synergy that exists between the salt forming acid and the detergent, resulting in both the removal of the biofilm as well as its destruction, is neither disclosed nor suggested by Tuompo *et al*. The Examiner's attention is drawn to the fact that biofilms are "organized" microorganisms that are much more resistant to biocides than free or planktonic microorganisms.

Following the Examiner's reasoning, it would have been obvious to a person skilled in the art to combine each of the components described by Tuompo *et al* in the requisite proportions, to exemplify the compositions of the present application. Applicants submit that the compositions disclosed by Tuompo *et al* are useful for dislodging biofilms while preserving the microorganisms. They are not intended to destroy the integrity of the biofilm, thus exposing the bacteria contained therein. It is respectfully submitted that it cannot be predicted *a priori* which combinations of ingredients are going to provide blends capable of both dislodging a biofilm as well as destroying the bacteria contained therein. Referring to Table 1 of the present application (pages 11-13), the efficiency of the blends could not have been predicted without any undue experimentation.

Further Claim Rejection under 35 USC §103

The Examiner has rejected claims 1-2 and 14-15 under 35 USC §103(a) as being unpatentable over Tuompo *et al*. (US Patent 5,910,420) in view of WO 99/51578.

WO 99/51578

This reference discloses biocidal benzylbiphenyl derivatives, more particularly, compositions comprising these derivatives. The derivatives and compositions containing these derivatives are disclosed as capable of preventing the formation of biofilms. The benzylbiphenyl derivatives are capable of forming salts with various organic acids including acids like malic acid, and mandelic acid. The compositions are disclosed as additionally comprising an anionic surfactant such as for example SDS, as well as additional biocidal agents.

Nothing in this reference remedies the deficiencies of Tuompo, by teaching that a specific combination of a detergent and a salt forming acid successfully dismantles biofilms. This reference does not substantiate the role of the detergent as one participating in the dismantlement of the biofilm. From page 14 of the International Application, it is clear that the surfactants are to be used for their classical functions (for its emulsifying, dispersing, and wetting properties). Indeed, no biofilm destruction is shown. Prevention of formation of biofilms by using a biocidal composition is not the same task as destroying a well-established biofilm. There is no suggestion in this reference that would motivate the person skilled in the art to specifically combine detergents and salts or salt-forming acids in amounts capable of dismantling biofilms.

Applicants assert that the rejections are traverse and the claims as submitted are in condition for allowance.

CONCLUSIONS

Authorization is hereby given to charge deposit account no. 13-2725 for any deficiencies or overages in connection with this Response.

It is believed that the present application is in condition for allowance and a notification to this effect is earnestly solicited. If the Examiner feels that a telephone interview may be helpful in this matter, please contact Applicants' Representative at (612) 336-4728.

Respectfully submitted,

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3/31/03

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification

The title has been amended as follows:

-- COMPOSITIONS FOR REMOVING BIOFILMS COMPRISING A DETERGENT
AND A SALT FORMING ACID IMPROVED BACTERICIDAL AND NON-BACTERICIDAL
SOLUTIONS FOR REMOVING BIOFILMS --

In the Claims

13. (Amended) A composition as defined in claim 2, wherein said bactericide is hydrogen peroxide or any bactericide having a bactericidal potency and host spectrum substantially equivalent thereto to hydrogen peroxide.
15. (Amended) A composition as defined in claim 14, wherein the phenol, mandelic acid, or cetylpyridinium chloride achieving achieves a final concentration of at least 0.1%.

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